AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include replacement sheets and annotated sheets showing changes to Fig. 4 and changes to the header. These sheets, which include Figs. 1-5 and Figs. 6-8, respectively, replace the original sheets including Figs. 1-5 and Figs. 6-8. Additional drawing Figs. 4a and 5a are also being submitted herewith.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes
Additional Drawing Sheets (Figs. 4a, 5a)

REMARKS

Claims 19-37 are currently pending in this application with claim 19 being in independent form. Claim 19 is currently amended. Support for the amendments to claim 19 are provided in the specification as follows: The term "Line sensor" is mentioned on p.1, line 9 of the specification, describing "line sensors" as the technical field of the invention. Additionally, page 1, lines 9-11 recite "Line sensors of this type make use of changes in the wavelength of a signal transported through a line as a consequence of external loads exerted upon the line during the signal transport." Page 2, lines 1-2 of the specification recite "In an unloaded situation of the signal line a signal is thus not influenced, or less so, by the at least one more rigid component". Page 4, lines 10-12 of the specification recite "In the unloaded situation of the gripping means such a relationship of signal line and gripping means does not impede passage of the signal at all". Finally, page 5, lines 23-25 of the specification recite "When a rigid component 1, 3, 6 is loaded, it will be pressed from a starting position into the resilient sleeve, wherein a local load will simultaneously be exerted on the signal line. When the load has disappeared, rigid components 1, 3, 6 are urged back to the starting position again by the resilient sleeve."

No new matter has been added.

Response to Rejections/Objections

The drawings have been objected to under 37 CFR §1.83(a) as failing to show the gripping element to grip on the sleeve of the signal line with a spring element engaging the rigid component and exerting a biasing force to the rigid component and away from the signal line to allow for displacement of the gripped cable. Enclosed herewith are additional drawing Figures 4a and 5a. Figure 4a shows the gripping means according to Figure 4 in a situation under load. Figure 5a shows the gripping means according to Figure 5 in a situation under load.

With respect to the Examiner's comments regarding Figure 6 that the figure shows a gripping element 1 gripping a sleeve 20 of a signal line 19 but no spring element to provide a biasing force, the description of Figure 6 explains that the sleeve is resilient (p.6, lines 28-31), and therefore acts as a spring element. The specification has been amended to positively recite that the sleeve is resilient.

Accordingly, in view of the submissions of additional drawings and the comments set forth above, it is respectfully requested that the objection to the drawings under 37 CFR §1.83(a) be withdrawn.

The specification has been objected to under 37 CFR §1.75(d). The Examiner contends the gripping element to grip on the sleeve of the signal line, with a spring element engaging the rigid component and exerting a biasing force to the rigid component and away from the signal line, to allow displacement of the gripped cable by external forces has not been described in the specification. We respectfully traverse the Examiner's position for the following reasons.

The phrase "to exert a biasing force on the rigid component and directed away from the signal line" has direct antecedent basis from the specification at page 2, lines 8-10. The phrase "wherein the spring element engaging on the at least one rigid component allows for displacement of the gripped cable by external forces" can be inferred from the specification, as the specification is replete with references to the movement of or load being applied to the cable and the movement or displacement of this cable. See, for example, page 2, lines 23-28; page 4, lines 10-14; page 5, lines 23-27 and lines 32-34; and page 6, lines 11-16.

For the reasons set forth above, it is requested that the objection to the specification under 37 CFR 1.75(d) be withdrawn.

Claims 19-37 are rejected under 35 U.S.C. §112, first and second paragraphs, as failing to comply with the enablement requirement, failing to comply with the written description requirement, and failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner's attention is directed to the comments set forth above which point to specific locations within the originally filed specification which support the claim amendments. The Examiner also states that claim 19 is confusing because first it requires that an external force should be removed away from the signal line. This statement is incorrect. The claim specifies that load applied by the ***gripping means or rigid component*** is removed from the signal line, not that an external force be removed from the signal line.

For the reasons set forth above, it is requested that the rejection of claims 19-37 under 35 U.S.C. §112, first and second paragraphs, be withdrawn.

Claims 19-24 and 27-36 remain rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,279,469 to Forman. The Examiner asserts that Forman teaches each and every feature of the invention including at least one rigid component 38 adapted to grip a sleeve 42 of a signal line 12 wherein the gripping means includes a spring element 28 made of a flexible material which engages and exerts a biasing force on the rigid component and away from the signal line to remove load or loads on the rigid component. The gripping means can be released or partially released from the signal line. The signal line is influenced by loads on the signal line and the signal line passes in a smooth line in the gripping means.

Applicant respectfully traverses the rejection for the following reasons.

Forman describes a line connector, which serves to connect line ends and protect the connection from external forces in order to ensure the signal through the connected lines is not distorted. The connector according to Forman has completely the opposite purpose to a line ***sensor***. A line sensor is adapted to be sensitive toward external forces by intentionally distorting the signal running through the signal line. The line sensor having gripping means according to the invention is a significant improvement over known line sensors, as by biasing the signal line back toward an undistorted situation when not under load, the difference in the signal detected in the loaded state and the unloaded state becomes much more pronounced and thus makes the line sensor more sensitive. This allows for using longer signal lines and/or lower power sources of signal, making the line sensor according to the invention more efficient in the use of energy and material.

The connector of Forman, on the other hand, is from an entirely different technological field (*connectors* instead of *line sensors*). Accordingly, it would be unlikely that one having ordinary skill in the art would consider the teachings of Forman when seeking to improve line sensors. The connector according to Forman is simply not suitable for use as a line sensor, as its intended purpose is to protect the signal line from distortions; in other words, in contrast to a line sensor, the connector according to Forman makes the signal line less sensitive towards external forces. Moreover, in the unlikely event that one would try to test the connector as a line sensor, it would not work, and would obviously perform worse than known line sensors. Thus, the improved line sensor according to the invention, which gives an improved sensitivity over known line sensors, cannot be anticipated by Forman's connector, as a signal line in a

protecting connector would have a decreased sensitivity rather than the increased sensitivity according to the invention.

As amended, claim 19 specifies the functionality of the spring element in relation to the rigid component. Particularly, the spring element of the claimed invention engages the rigid component, thereby allowing for displacement of the gripped cable by external forces. Additionally, claim 19 has now been amended to specifically recite a ***line sensor*** and to further specify that ***the gripping means are adapted to distort a signal through the signal line when the signal is displaced by external forces, and wherein, in an unloaded situation of the gripping means, the passage of a signal through the signal line is not impeded.*** The connector of Forman fails to anticipate the particular features of the line sensor as presently recited in the claims. Furthermore, as stated in the response filed July 15, 2008, the "spring element 28" of Forman does ***not*** bias the rigid sleeve element 38 away from the signal line 12, to remove the load of the rigid component from the signal line. Forman is directed to a cable connector for joining optically the respective terminal ends of one or more pairs of glass fiber optic cables. This cable connector, for joining the cable ends, is designed to ***prevent displacement by external forces*** in order to minimize degradation of the signals. Accordingly, the cable connector of Forman achieves the exact opposite result as the present invention. The connector of Forman is aimed at gripping and protecting the cable from any distortions as much as possible and, therefore, cannot be relied upon for achieving the goal of the present invention.

The connector of Forman is concerned with permanent fixation and stabilization of the position of the optical cables. Note especially col. 1, lines 46-50 of Forman, which states that the alignment sleeves enable precise and rigid alignment of the cables joined therein. The resilient collar permits transverse adjustments only during the mating of the connector parts, not during use in the connected state. Col. 2, lines 39-50 of Forman states that the sleeve 38 is made of metal (which would not allow for any distortion of the cable), and states that the sleeve 38 rigidly supports the terminal end of the cables (col. 2, line 43).

Of further note, the European equivalent patent regarding the same invention has been granted, and has been published under EP1527428 (B1). Its main claim is as follows: *"Gripping means for a signal line, which signal line is embodied such that the signal that is fed through the line can be influenced by loads exerted externally on the cable, which gripping*

means comprise at least one rigid component adapted to grip on the sleeve of the signal line, characterized in that the gripping means also comprise a spring element engaging on the rigid component to remove the load of the rigid component from the signal line." Note that this claim has a significantly broader scope of protection than the main claim of the present invention. During prosecution before the EPO, Forman was not considered as relevant prior art for grant, presumably as it is not in the same field of technology, which under the European Patent Convention would not make it a suitable document to be cited as the closest prior art.

Accordingly, for the reasons set forth above, and in view of the amendments to claim 19 further clarifying the functionality of the features of the gripping means in relation to the signal line, it is respectfully requested that the rejection of claims 19-24 and 27-36 under 35 U.S.C. §102(b) be withdrawn as Forman fails to anticipate each and every feature of the claimed invention. Additionally, it would not have been obvious to one having ordinary skill in the art to modify the connector of Forman to achieve the present invention, as such would require significant modification thereof.

Claims 25-26 are rejected under 35 U.S.C. §103(a) as being obvious over Forman in view of U.S. Patent No. 5,703,754 to Hinze.

Hinze is relied upon as teaching materials having a hardness of between 10-100 Shores. Hinze fails to overcome the deficiencies of the Forman connector. Hinze shows adhesive sealant as materials used for construction of a circuit board and are thus, covered by the compound, a Shore hardness of 40-50 after curing of the sealant is preferred (col. 3, lines 34-35). The function of the hardness is apparently to make the board tamper deterrent and tamper evident (col. 3, line 42). This implies that the cured sealant has a lack of resilience, as resilient materials could come back to their original form after a tampering attempt.

Moreover, as stated above, the combination of Forman with Hinze would not lead to the invention as recited in base claim 19, as the spring element that allows for displacement of the gripped cable is still lacking in Forman.

For the reasons set forth above, it is respectfully requested that the rejection of claims 25-26 under 35 U.S.C. §103(a) be withdrawn as the combination of Forman with Hinze fails to render these claims obvious.

Response to Arguments

The Examiner asserts that Forman shows a gripping means for gripping a signal line comprising at least one rigid component 38 adapted to grip a sleeve 42 of a signal line 12 wherein the gripping means includes a spring element 28 made of flexible material, which engages and exerts a biasing force on the rigid component and away from the signal line to remove loads of, or loads on, the rigid component. Applicant disagrees. As stated above, the connector of Forman is concerned with permanent fixation and stabilization of the position of the optical cables. While the connector of Forman contains a resilient collar 28, this collar 28 serves to axially align the cables during mating (col. 2, lines 42-46). After mating the cable ends, the resilient collar 28 serves to absorb shock forces (col. 2, lines 46-48) and does, therefore, not enhance sensitivity toward external pressure, but reduces it.

CONCLUSION

Based on the foregoing remarks, reconsideration of the rejection and allowance of pending claims 19-37 is respectfully requested.

Respectfully submitted,

THE WEBB LAW FIRM

By_____

John W. McIlvaine
Registration No. 34219
Attorney for Applicant
436 Seventh Avenue
700 Koppers Building
Pittsburgh, PA 15219
Telephone: (412) 471-8815
Facsimile: (412) 471-4094
E-mail: webblaw@webblaw.com